



**PREPARATION NOTICE
H-POWER EXPANSION PROJECT
KAPOLEI, OAHU, HAWAII
TMK #(1)9-1-026-030**

Submitted to:

**Department of Environmental Services
City and County of Honolulu
650 South King Street, 3rd Floor
Honolulu, Hawaii 96813**

Submitted by:

The City and County of Honolulu, Hawaii

Prepared by:

**Covanta Honolulu Resource Recovery Venture
and
AMEC Earth & Environmental**

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EXECUTIVE SUMMARY

Proposed Action: The Proposed Action is the H-POWER Expansion Project, hereafter referred to as the “Expansion”, which consists of the addition to the existing H-POWER Facility (“Facility”) of a 900 ton per day (“TPD”) mass burn waterwall municipal waste combustor (MWC) unit, its associated air pollution control equipment, and all the equipment required to tie the addition into the existing Facility, and a new turbine generator which will provide an additional source of renewable energy to the City and County of Honolulu.

Applicant/Proposing Agency: The applicant for the proposed H-POWER Expansion is the City and County of Honolulu, Hawaii (the “City”).

Accepting Agency: The accepting agency is the Department of Environmental Services, City and County of Honolulu.

Agencies Consulted in Making the Assessment: The City and County of Honolulu determined that an EIS would be prepared to fully evaluate the potential environmental effects of the Expansion and to provide documentation for community and agency review. The City has requested the operator of H-POWER, Covanta Honolulu Resource Recovery Venture (CHRRV) to initiate the EIS process. CHRRV has in turn contracted with AMEC Earth & Environmental (AMEC) as an environmental consultant to assist in the EIS process. The City, CHRRV and AMEC have conducted Agency consultations. Agency consultations conducted in advance of the publication of the EIS Preparation Notice in *The Environmental Notice* are listed in Table B – Agencies Consulted (see page 25).

General Description of the Proposed Action’s Technical, Economic, Social and Environmental Characteristics; Time Frame; Funding Source:

Technical Characteristics

As shown in Figure 1-1, the Expansion consists of the addition to the Facility of a 900 TPD mass burn waterwall MWC unit, its associated air pollution control equipment, and all the equipment required to tie the addition into the existing H-POWER Facility. It includes modifications and additions to the existing waste feed system and ash handling and other utility systems necessary for the new equipment. A new turbine generator, in addition to the existing 58 MW turbine generator, will be installed. The new unit (Unit 3) will consist of a mass burn waterwall municipal waste combustor unit, fuel feeding system, state-of-the-art reverse reciprocating grate, integrated furnace/boiler, and the most advanced air pollution control system used on these plants in this country. The air pollution control system consists of a dry scrubber, fabric filter baghouse, carbon injection system, selective non-catalytic reduction system in combination with Covanta’s proprietary control technology called very low NOx system (VLN®), and associated ash and residue systems. The new unit is expected to generate about 234 tons (wet weight) of ash per day. To provide for adequate cooling water, the proposed project would require increasing the caprock water supply permit limit from 2.26 million gallons per day (MGPD) to 3.34 MGPD and the caprock water injection permit limit from 1.2 MGPD to 1.82 MGPD. H-POWER’s cooling tower basin will be expanded by the addition of three new cooling towers.

Economic Characteristics

The Expansion is anticipated to be an economic stimulus in multiple ways:

- H-POWER currently employs 145 island residents and has a \$10 million annual payroll. The Expansion is anticipated to result in 300 construction jobs and several additional operational positions.
- H-POWER utilizes local vendors whenever possible to purchase goods, services and equipment. Each year H-POWER spends more than 8.5 million locally on equipment and services from Hawaii vendors, further boosting the local economy. The Expansion is anticipated to result in significant local spending during the construction period.
- The existing H-POWER Facility is a proven and cost effective solution for the management of municipal solid waste (MSW) on the Island of O‘ahu. The Expansion will ensure that the growing demand to manage MSW on the O‘ahu is addressed. The construction of the Expansion will not interfere with the operation of the existing Facility.
- H-POWER has been recycling waste into energy since it started operation. It produces about 5 percent of the power used on the Island avoiding the need to import expensive oil, providing a significant reduction in greenhouse gas emissions, and reducing the need for landfilling on the Island.

Social Characteristics

The H-POWER facility has been operational for 18 years and its reliable service to the City was demonstrated by the recent celebration of the processing of its 11,000,000th ton of solid waste on March 15, 2008. It is anticipated that H-POWER, with development planned at the existing industrial site, would continue to provide reliable service to the City and would continue its existing role as an important community partner, with participation in local organizations such as:

- Sponsorship of the Kapolei Rotary Club;
- Sponsorship of the Kapolei Family Fun Run to benefit literacy programs;
- Sponsorship of the Waianae Comprehensive Health Care Fun Run;
- Participation in Hawaii Food Bank’s annual food drive;
- Sponsorship of statewide science fair and school career days and other youth and school programs and initiatives;
- Membership and service on the Board of Directors for the Campbell Local Emergency Action Network (CLEAN) interfacing with the neighboring communities on safety, environmental, public education, and emergency action needs and response; and
- Provision of over 100 tours and exhibits annually for the community, schools, elected officials, and civic organizations.



Additionally, the Facility has received recognition for its exemplary operation and safety record:

- Recipient of coveted U.S. EPA environmental excellence award. - H-POWER is the first and only U.S. EPA National Environmental Performance Track site in Hawaii. As such, H-POWER has met all criteria and demonstrated excellence in environmental performance management systems and training, continuous improvement, and community outreach.
- Recipient of U.S. OSHA Safety award. COVANTA - H-POWER is one of only five companies in Hawaii to receive the U.S. OSHA Voluntary Protection Program (HVPP) for excellence in Safety.

Environmental Characteristics

The Expansion will increase its waste disposal capacity, increase the energy and recyclable metals recovered annually, and further reduce the need for landfilling of MSW in Honolulu. The environmental characteristics of the Expansion will fully comply with federal, state, and local permits (see Table A) and programs designed for the protection and stewardship of Hawaii's environmental resources. Furthermore, the City has, by virtue of this EIS Preparation Notice, deemed that a full assessment of the potential environmental consequences of the Expansion be prepared for community review and comment. This will include an assessment of the existing natural and human environment, including potential impacts and mitigative measures, as well as an assessment of the project's conformance to federal, state, and local planning polices, and a sustainability analysis. In addition the EIS will document potential irreversible and irretrievable commitments of resources and will identify potential unresolved issues.

Time Frame

The proposed Expansion will undergo environmental permitting and, if fully approved, commencement of construction is anticipated in the second half of 2009. The construction period is expected to last 30 months with an additional three months for Start-up. Commercial operation of the proposed Expansion is anticipated in 2012.

Summary Description of the Affected Environment, including suitable and adequate regional, location and site maps such as Flood Insurance Rate Maps, Floodway Boundary Maps, or United States Geological Survey (USGS) topographic maps: The H-POWER Expansion is proposed to occur on the existing H-POWER Facility parcel. That site consists of 24.635 acres (1,073,100 s. ft.) of industrially zoned and developed property situated within the Campbell Industrial Park at Barbers Point. The parcel's Tax Map Key number is #1(9)-1-026-030. Figure 2-1 depicts the site location on a USGS topographic map and shows the major roadways in the vicinity of the existing H-POWER Facility. Figures 2-2 and 2-3 are aerial photographs showing the existing industrial nature of the site and surroundings. Figure 2-4 is a site plan overlaid onto an aerial photograph. Maps depicting additional site and regional resources will be provided in the EIS.

Impacts to Cultural Practices and Resources, Past and Current: The City recognizes that a key component of the EIS to be developed will be a review of cultural practices and resources, past and current. Pacific Consulting Services, Inc. of Honolulu has been selected to conduct reviews of historic, archaeological and cultural resources to ensure that potential impacts to such resources are fully identified and evaluated.

Identification and Summary of Impacts and Proposed Mitigation Measures: The EIS to be developed will include identification of the project's potential effects to:

- Geology and Soils
- Surface Water and Groundwater Resources/Hydrology
- Biological Resources
- Archaeological, Historic and Cultural Resources
- Roadways and Traffic
- Noise
- Air Quality
- Visual Resources
- Socioeconomics
- Infrastructure
- Solid Waste
- Energy
- Human Health

For each of the above topics, the identification of potential impacts and proposed mitigation measures will include an assessment of both short term (construction impacts) and long-term effects.

Alternatives Considered: The alternatives considered will include eight technology alternatives, two siting alternatives, and two required alternatives (No Project and Delayed Project), as noted below:

Technology Alternatives

- The Project — Mass Burn Energy-from-Waste
- Other Combustion — Refuse Derived Fuel Energy-from-Waste
- Non-Combustion — Thermal Technology
- Non-Combustion — Non-Thermal Technology
- Landfilling at Waimanalo Gulch Sanitary Landfill
- Landfilling at Another On-Island Site
- Landfilling Off-Island

- Expanded Recycling

Siting Alternatives

- The current H-POWER Site
- A Greenfield Site

Required Alternatives

- No Project
- Delayed Project

Discussion of Findings and Reasons Supporting the Agency Anticipated Determination:

The City has deemed that an EIS be prepared to fully address the project. Submission of this EIS Preparation Notice is to provide the opportunity for community involvement as part of the EIS process.

List of all Required Permits and Approvals (State, federal, county): Table A, Potential Permits (see page 24), identifies the required permits and approvals (federal, state, and county).

Written Comments and Responses to the Comments under the Early Consultation Provisions: Table B, Agencies Consulted (see page 25), provides a list of agencies contacted.

1.0 PROJECT OVERVIEW

The primary function of the existing Facility is to provide disposal of municipal solid waste (MSW). The plant, comprised of an MSW processing plant which produces Refuse Derived Fuel (RDF) and two 854 ton per day municipal combustors, processes 610,000 tons of MSW per year¹, reducing the volume of refuse that goes to the landfill by 90%. Additionally, H-POWER annually recovers 20,000 tons of metals, such as aluminum and steel from the waste stream. H-POWER, a City & County of Honolulu facility, combusts the RDF to produce steam that drives a turbine generator. The electricity generated by this waste-to-energy plant is distributed to customers by Hawaiian Electric Company (“HECO”).

1.1 Proposed Action

The Expansion consists of the addition to the Facility of a 900 TPD mass burn waterwall MWC unit, its associated air pollution control equipment, and all the equipment required to tie the addition into the existing H-POWER Facility. It includes modifications and additions to the existing waste feed system and ash handling and other utility systems necessary for the new equipment. A new turbine generator, in addition to the existing 58 MW turbine generator, will be installed. The new unit (Unit 3) will consist of a mass burn waterwall municipal waste combustor unit, fuel feeding system, state-of-the-art reverse reciprocating grate, integrated furnace/boiler, and the most advanced air pollution control system used on these plants in this country. The air pollution control system consists of a dry scrubber, fabric filter baghouse, carbon injection system, selective non-catalytic reduction system in combination with Covanta’s proprietary control technology called very low NOx system (VLN®), and associated ash and residue systems. The new unit is expected to generate about 234 tons (wet weight) of ash per day. To provide for adequate cooling water, the proposed project would increase the caprock water supply permit limit from 2.26 million gallons per day (MGPD) to 3.34 MGPD and the caprock water injection permit limit from 1.2 MGPD to 1.82 MGPD. H-POWER’s cooling tower basin will be expanded by the addition of three new cooling towers.

Figure 1-1 depicts the Site Plan that shows the footprint of the modifications to the H-POWER Facility associated with the Expansion.

The Expansion will increase the facility’s waste disposal capacity, increase the energy and recyclable metals recovered annually, and further reduce the need for landfilling of municipal solid waste in Honolulu. The environmental characteristics of the Expansion will fully comply with federal, state, and local permits and programs designed for the protection and stewardship of Hawaii’s environmental resources.

1.2 Background and Historical Perspective

Prior to 1977, the City and State had conducted, commissioned or sponsored a number of studies over an approximately 12 year period in order to find a solution to what was then a growing solid waste problem. At that time, approximately 80 percent of O’ahu’s refuse was disposed of at City operated landfills and space at these landfills was rapidly being used up. In 1977, analysis of possible waste disposal solutions was conducted by MITRE Corporation. That analysis evaluated development of a solid waste resource recovery system (1983 Revised EIS)

¹ Based on a 10-year average.

to address the solid waste issue. The City subsequently embarked on a program to implement the recommendations contained in MITRE's final report. In the summer of 1978, the City issued a Request for Proposals (RFP) for what was then referred to as H-POWER – the Honolulu Program Of Waste Energy Recovery. In 1982, documents went out on which two bidders were asked to submit bid prices. It was hoped that a contract would be awarded by the end of December 1983 and to enter full-scale operation by January 1987. After a series of submittals and reviews, including environmental considerations by the City and residents, a final decision was eventually reached, and in May of 1990 the H-POWER facility went into commercial operation at its current location in the Campbell Industrial Park.

The H-POWER facility has been operational now for over 18 years, and its reliable service to the City continues. It is anticipated that H-POWER, with the proposed development planned at the existing industrial site, would expand upon its reliable service to the City and in so doing continue its long history of providing cost effective solid waste solutions as well as a critical source of renewable energy to the City and County of Honolulu and the Island of Oahu. H-POWER generates five (5%) percent of Oahu's electricity from a renewable resource, helping Oahu achieve its goal of becoming more energy self-sufficient by reducing dependence on imported fuel. It is anticipated that, after the expansion, H-POWER will generate eight (8%) percent of Oahu's electricity from a renewable resource.

1.3 Purpose of the Preparation Notice

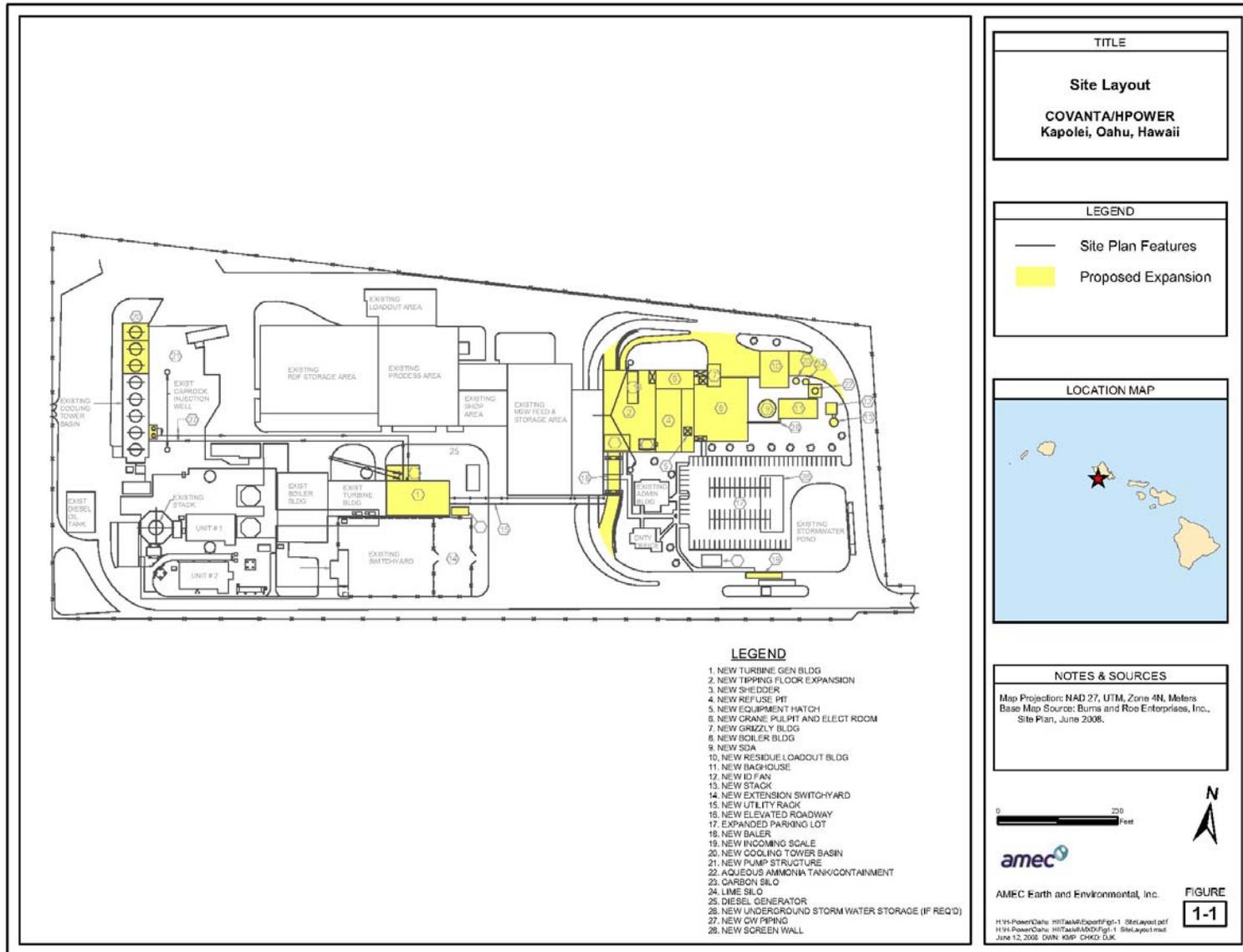
This Preparation Notice has been prepared by CHRRV, the City and County of Honolulu, and their environmental consultants and subcontractors in order to satisfy the requirements of Hawaii Revised Statutes (HRS) Chapter 343. The use of County lands and funds is the primary reason that the City and County of Honolulu has determined that an EIS be prepared. This Preparation Notice is the initial step in that process.

The purpose of this Preparation Notice is to inform interested parties of the proposed project and to seek public input on subject areas that should be addressed in the forthcoming Draft EIS. The EIS will address mitigation measures to prevent or reduce the project's potential effects and will present alternative methods, modes or designs of the proposed action. A key component of the overall process is public participation. As such, CHRRV and the City and County of Honolulu consulted with and continue to consult with numerous state and federal agencies in formulating plans for addressing the County's solid waste disposal needs (see Table B). These efforts are summarized in Section 7.

1.4 Purpose and Need for the Project

The H-POWER Expansion is designed to offer increased efficiency and capacity at the existing H-POWER Facility in Kapolei, Hawaii. The Project is being developed to expand a competitively priced, environmentally sound and proven waste disposal technology on Oahu, thereby extending the life of the existing Waimanalo Gulch Sanitary Landfill and potentially minimizing the capacity needs of landfills yet to be developed.

Figure 1-1. Site Plan



2.0 PROJECT DESCRIPTION

Unprocessed municipal refuse would be delivered to the facility as it is currently, by standard packer trucks and/or transfer vehicles. Some of the refuse will be converted into Refuse Derived Fuel (RDF) that will be loaded onto conveyors for delivery to the metering bin of the existing steam generators. Some of the waste will be conveyed by a proposed, new waste loading system to the state-of-the-art reverse reciprocating grate of the proposed, new mass burn waterwall MWC unit. Above the grate and integrated with the waterwall furnace is the new steam boiler, designed specifically for mass burn combustion. The proposed design offers highly efficient heat recovery and prolonged operation with a minimum of maintenance. The air pollution control system consists of a dry scrubber, fabric filter baghouse, carbon injection system, and selective non-catalytic reduction system in combination with Covanta's proprietary control technology called very low NOx system (VLN®). Steam generated in the boiler will be delivered to a proposed new turbine generator to produce electricity for in-plant needs and for sale to Hawaiian Electric Company (HECO). The proposed mass burn combustion unit will have new, dedicated ash and residue handling systems to handle the about 234 tons (wet weight) of ash expected to be generated per day from the proposed new unit. It is anticipated that an increase of ash as well as metals recycling will result due to the proposed increase in facility throughput from an average of 610,000 tons per year to 910,000 tons per year. To provide for adequate cooling water, the proposed project would require increasing the caprock water supply permit limit from 2.26 million gallons per day (MGPD) to 3.34 MGPD and the caprock water injection permit limit from 1.2 MGPD to 1.82 MGPD. H-POWER's cooling tower basin will be expanded by the addition of three new cooling towers.

A detailed description of the key elements of the Expansion will be provided within the EIS.

2.1 Project Location and Site Characteristics

The existing H-POWER site consists of 24.635 acres (1,073,100 sq. ft.) of industrially zoned and developed property situated within the Campbell Industrial Park at Barbers Point. The parcel's Tax Map Key number is #1(9)-1-026-030. Figure 2-1 depicts the site location on a topographic map and shows the major roadways in the vicinity of the existing H-POWER facility.

As depicted in Figure 2-1, the site is situated within the industrial area of Barbers Point within the Campbell Industrial Park. Figures 2-2 and 2-3 are aerial photographs showing the site and surrounding areas. Figure 2-4 is a figure showing the Site Plan overlaid onto an aerial photograph showing that the Expansion does not significantly change the industrial character of the Campbell Industrial Park.

2.2 Construction Activities

Initial construction activities will include mobilization, clearing, and site preparation (consisting primarily of identification and repair of surface cavities) followed by leveling the site and placement of footings and foundations prior to full construction.

During mobilization, ground disturbance during clearing, site preparation and grading shall be held to the minimum area necessary to accommodate movement of heavy equipment and materials required for construction. This will minimize storm-generated run-off from disturbed areas of the site. Staging, stockpile and parking areas for workers shall be prepared as

necessary with appropriate storm water discharge pollution prevention features and fugitive dust suppression. Temporary staging areas and construction parking may include the use of adjacent off-site parcels. The proposed staging areas are depicted in Figures 2-2 and 2-4.

A complete discussion of potential impacts and recommended mitigation measures for construction related impacts including noise, parking and traffic, equipment storage and laydown areas, as well as the potential positive aspects such as employment and revenues from local spending will be provided in the forthcoming Draft EIS.

Upon completion of construction activities, the site will be landscaped similarly to pre-project conditions. An evaluation of potential landscape improvements, including lighting and fencing requirements, will be prepared as part of the Draft EIS.

2.3 Project Schedule

The proposed Expansion will undergo environmental permitting and, if fully approved, commencement of construction is anticipated in the second half of 2009. The construction period is expected to last 30 months with an additional three months for Start-up. Commercial operation of the proposed Expansion is anticipated in 2012.

Figure 2-1. Locus Map

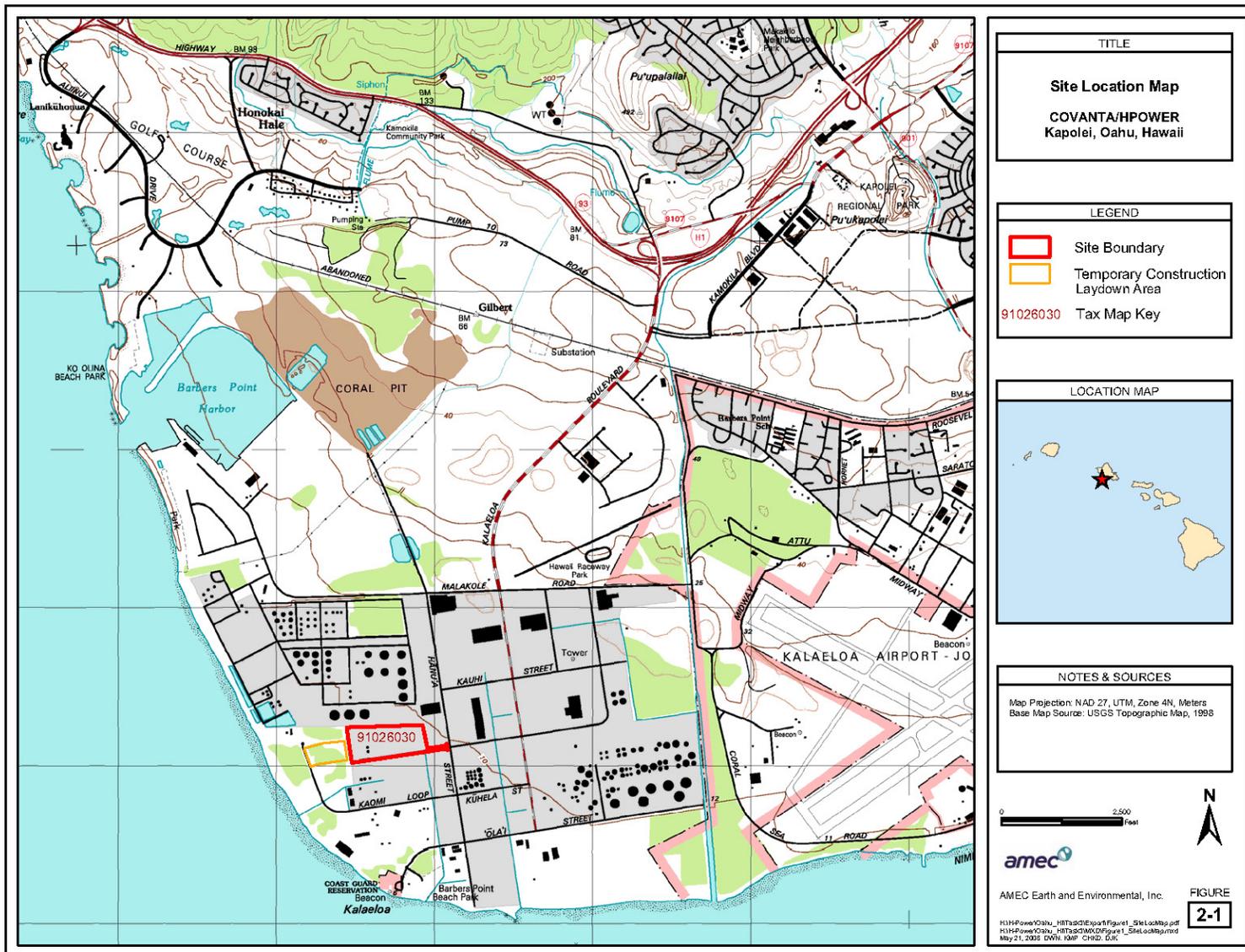


Figure 2-2. Aerial Photograph #1

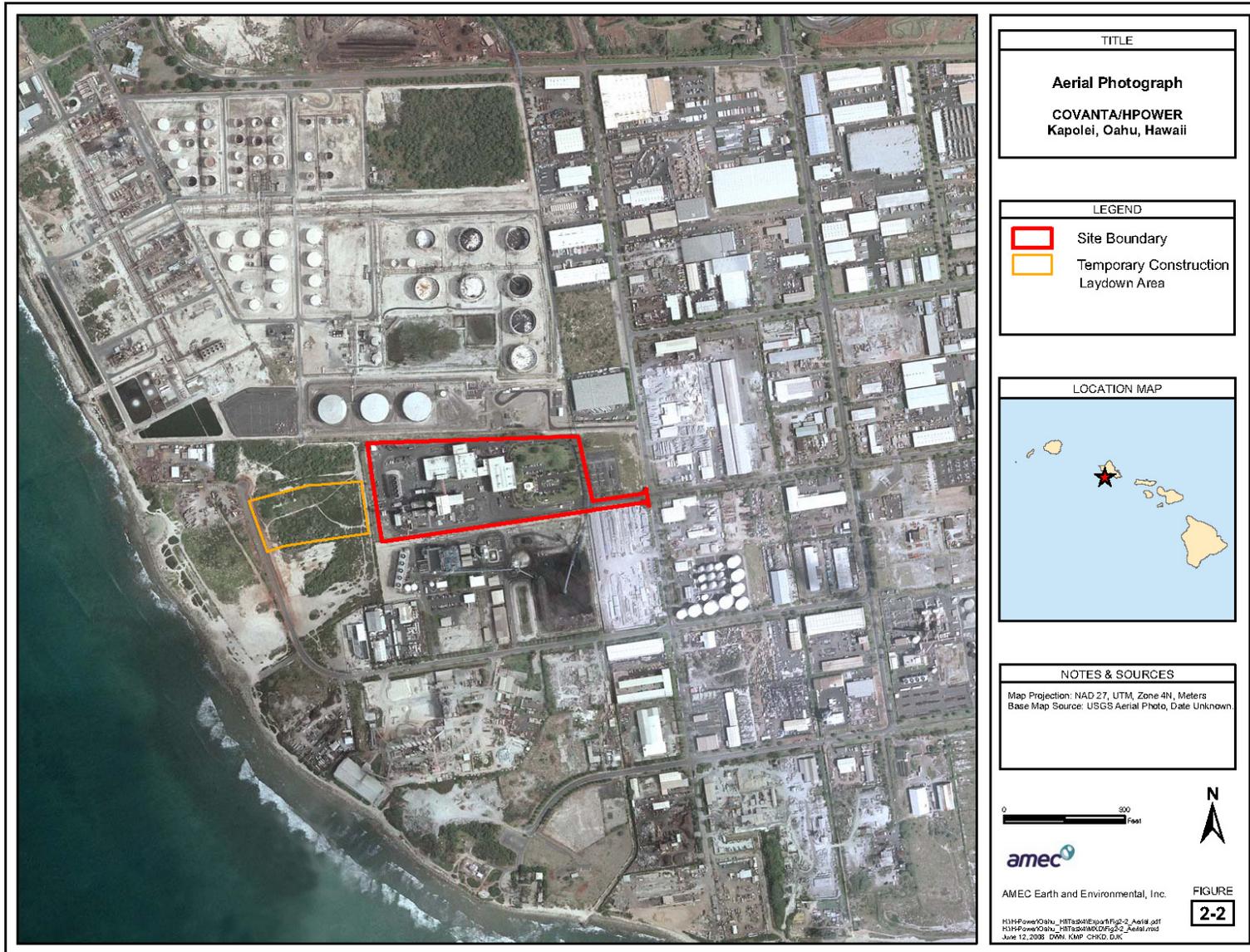
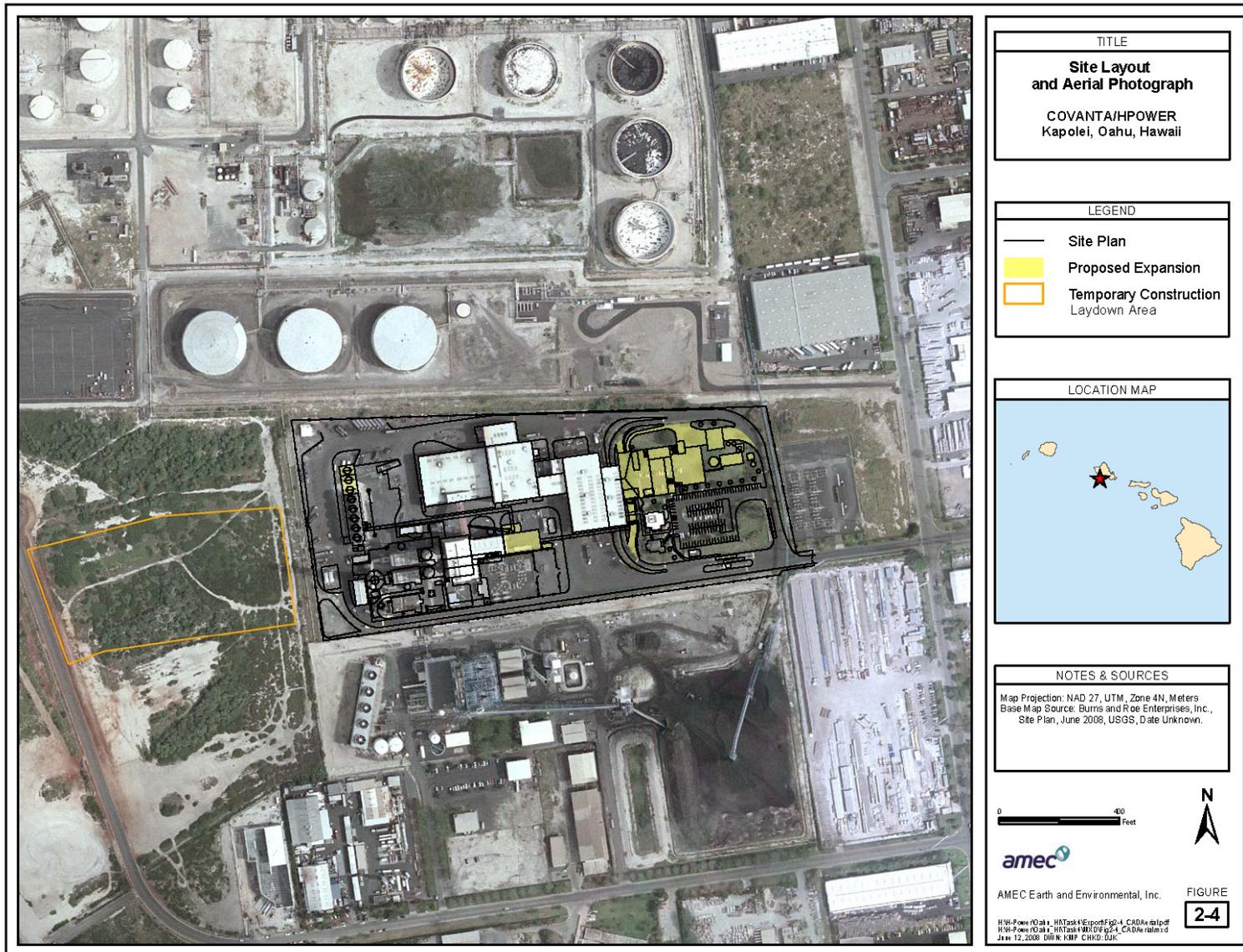


Figure 2-3. Aerial Photograph #2



Figure 2-4. Site Plan Overlaid onto Aerial Photo



3.0 NATURAL ENVIRONMENT

This chapter discusses the natural environment in the area of the proposed project. Where additional investigations are anticipated to support preparation of the Draft EIS and to identify potential impacts, these proposed studies are noted.

3.1 Topography, Climate, and Rainfall

According to the 1986 Final Geotechnical Report (C.E. Maguire, 1986) prepared prior to the construction of H-POWER, the topography of the site was generally flat, ranging from +7 to +16 MSL and averaging approximately +12 to +13 MSL in the area of the major structures. During site preparation and grading prior to construction of the H-POWER facility some elevation changes were made at the site. Updated topographic survey drawings of current conditions at the H-POWER site will be provided within the Draft EIS.

According to the 1983 EIS (Belt, 1983) and the 1986 Final Geotechnical Report, the H-POWER site is approximately 1800 feet from the shoreline and within an area classified as Zone D according to the 1980 U.S. Department of Housing and Urban Development Flood Insurance Rate Maps (FIRM). Only a narrow strip of shoreline (off-site), approximately 200-400 feet in width is classified A4 according to the 1980 FIRM and therefore subject to tsunami inundation up to elevation +8 to +9 (100-year event).

The National Weather Service (NWS) operates a meteorological station at the Honolulu International Airport, approximately 12 miles east of Campbell Industrial Park. Amongst other measurements, the Honolulu NWS station records daily precipitation amounts and temperature. The average rainfall recorded at the Honolulu NWS station for the period of 1999 to 2003 ranged from 7.1 inches per year to 12.2 inches per year. The average rainfall for these years was 10.6 inches. The average rainfall recorded at the Honolulu NWS station over the 30-year period from 1971-2000 was 18.29 inches. The mean monthly temperature recorded at the NWS station between 1999-2003 ranged from 76.9 degrees Fahrenheit to 78.5 degrees Fahrenheit, with an average of 77.8 degrees Fahrenheit. This compares well with the average monthly temperature recorded at the Honolulu NWS station between the 30-year period from 1961-1990, which was 77.2 degrees Fahrenheit. Additional detail regarding climate and rainfall will be compiled and presented within the Draft EIS.

3.2 Geology and Soils

According to both the 1983 EIS (Belt, 1983) and the 1986 Final Geotechnical Report prepared prior to the construction of H-POWER, Barber's Point and the Campbell Industrial Park are contained within the western portion of O'ahu's 'Ewa plain. This area is an emerged coral-algae reef formed during the Pleistocene period when the ocean level was at a higher elevation. The Ewa plain extends from sea level at the coastline to an approximate elevation of 100 MSL about 3 to 5 miles inland. The local coastal plain is quite flat, with the 20-foot contour being more than a mile inland. The 'Ewa plain is made up of interbedded coral reef formations, marine sediments, and alluvium. The basement complex consists of basaltic lavas from the Waianae series. Both the coral reef formations and the basaltic lavas have generally high porosity and permeability; the marine sediments and alluvial deposits have much lower permeability. Because of this, they inhibit the movement of water. A relatively thick layer of these poorly

permeable materials separates the basalt from the strata above and is commonly referred to as “caprock”. Based on the site’s distance from the Waianae Mountains and estimates that the average dip of lavas in the Waianae volcanic series is five degrees, these coastal plain formations are believed to have a thickness of 600 to 800 feet in the vicinity of the project site.

Sinkholes formed by dissolution of the limestone are abundant in the area. However, those that previously occurred at the H-POWER site have been wholly or partially filled as a result of rough grading conducted in the early 1960s and more comprehensive grading and foundation preparation work during construction of the H-POWER facility.

The extremely shallow calcareous soil mantle present on the site prior to development of H-POWER was classified by the U.S. Soil Conservation Service (SCS) of the U.S. Dept. of Agriculture (1972) as Coral Outcrop and was not suitable for agricultural use. The site has since undergone extensive grading and filling due to construction of the H-POWER facility.

Prior to development of the Expansion project a comprehensive geotechnical engineering analysis will be performed to update the available geotechnical and soils information and to support the design of appropriate foundation and structural support for the Expansion. This information will be documented in the Draft EIS, and CHRRV will develop appropriate construction and mitigation procedures on the basis of the results of these investigations and consultations.

3.3 Groundwater, Surface Water and Hydrology

The groundwater table prior to construction of H-POWER ranged from 2 to 15 feet below the existing ground surface and was tidally influenced. The H-POWER facility currently uses groundwater wells to supply cooling water for use at the facility and discharges that water via injection wells.

Prior to development of the Expansion project an analysis of current groundwater and surface water conditions will be performed to update the available hydrological information and potential impacts to surface drainage or groundwater will be evaluated. This information will be documented in the Draft EIS and CHRRV will develop appropriate construction and mitigation procedures on the basis of the results of these analyses.

3.4 Biological Resources

CHRRV is in the process of consulting with both Federal and State agencies to determine if there are species of concern that occur either on the site or in the vicinity of the site so that appropriate avoidance or mitigation measures can be developed. Consultations will include, but are not limited to, the United States Department of the Interior, Fish and Wildlife Service (USFW), the Hawaii Natural Heritage Program, and the Board of Land and Natural Resources.

CHRRV will conduct a site survey prior to preparation of the Draft EIS and will develop appropriate construction mitigation procedures on the basis of the results of the site survey as well as on the basis of consultations, if needed.

4.0 HUMAN ENVIRONMENT

This chapter discusses the potential environmental consequences of the proposed action with respect to the human environment that require assessment during the Draft EIS. Where additional investigations are anticipated to support preparation of the Draft EIS and to identify potential impacts, these proposed studies are noted.

4.1 Archaeological, Historical, and Cultural Resources

As noted within the 1983 Revised Environmental Impact Statement, the Barber's Point area and the 'Ewa Plain in general have been the subject of relatively intense archeological interest and study. An initial archaeological reconnaissance survey and literature search conducted at that time sought to identify and locate surface archaeological material as well as sinkholes large enough to examine for archaeological and paleontological material. That 1983 study confirmed that the parcel had been significantly disturbed by bulldozing, dumping of trash, and the probable logging of kiawe wood for charcoal manufacturing. At that time, the site appeared to contain limited material of significance and the proposed H-POWER project's impacts on those resources were judged minor.

Currently, the H-POWER site is an industrial site with ancillary facilities such as switchyards and storage zones, parking and manicured lawns that has undergone extensive previous disturbance during construction of these facilities. Though intact archeological, historical or cultural impacts at the site would seem unlikely given the prior disturbance and industrial nature of the property, CHRRV is aware of identified resources proximate to the site. CHRRV will consult with the State Historic Preservation Department (SHPD) and other culturally or historically knowledgeable parties to determine if there are issues or resources of concern. Should such areas/resources be identified CHRRV will develop appropriate avoidance or mitigation measures.

Pacific Consulting Services, Inc. of Honolulu, a local firm specializing in archeological, historical and cultural resource investigations, has been employed to conduct research and develop recommendations on the basis of their findings. This information will be documented in the EIS, and CHRRV will develop appropriate mitigation procedures on the basis of the results of these investigations and consultations.

4.2 Roadways and Traffic

Based on recent facility operating logs, the H-POWER facility receives an average of 610,000 tons of MSW per year. Trucks hauling waste to the facility exit Interstate Highway 1 (H-1), exit 1, at Kalaeloa Boulevard (State Route 95) and access the H-POWER facility from Komohana Street at its intersection with Hanua Street. It is anticipated that with the Expansion of H-POWER an additional 300,000 tons of MSW will be processed annually, resulting in additional waste being brought to H-POWER rather than landfilled. It is recognized that there will be resultant traffic increases, both in incoming waste trucks and outgoing ash and metals recovery trucks, affecting the H-POWER access roads of Kalealoa, Komohana, and the intersection of Komohana and Hanua. However, a resultant decrease in westbound waste trucks to Waimanalo Gulch Sanitary Landfill will also be expected as waste is diverted to H-POWER. Though ash would still be transported from H-POWER westbound on Farrington

Highway (State Route 93), the quantity of ash is significantly smaller than the quantity of waste since waste to ash conversion results in an approximately 90% reduction in material volume. This results in a net decrease in truck traffic from the on-ramp at H-1 westbound (transitions to Farrington Hwy) to the Waimanalo Landfill.

AMEC Earth & Environmental experts in traffic analyses will be employed to conduct research and develop recommendations to minimize potential traffic impacts. This information will be documented in the Draft EIS, and CHRRV will develop appropriate mitigation procedures on the basis of the results of this study.

4.3 Noise

The H-POWER facility is an existing industrial facility located in Campbell Industrial Park and is compatible with neighboring industrial uses, including AES Hawaii, Inc. and HECO. As shown previously on Figure 2-2 and 2-3, Aerial Photographs, the area surrounding the H-POWER site is developed and is industrial in nature. The H-POWER facility is currently a source of noise, as are the industrial neighbors proximate to H-POWER. No significant change in noise levels either at or proximate to the site are anticipated to result from the Expansion. It is anticipated that temporary construction-related increases will occur.

AMEC Earth & Environmental experts in noise analysis and mitigation will be employed to conduct research and develop recommendations to minimize potential noise impacts. This information will be documented in the EIS, and CHRRV will develop appropriate mitigation procedures on the basis of the results of the study.

4.4 Air Quality

The original 1970 Clean Air Act authorized the Environmental Protection Agency (EPA) to establish National Ambient Air Quality Standards (NAAQS) to limit levels of critical health-based pollutants in the air. These pollutants, referred to as criteria air pollutants, include: Sulfur Dioxide (SO₂), Nitrogen Oxides (NO_x), Ozone (linked to emissions of Volatile Organic Compounds (VOCs)), Carbon Monoxide (CO), Lead (Pb), and Particulate Matter (PM/PM-10). Geographic areas that meet the NAAQS for a given pollutant are classified as attainment areas and those that do not are classified as non-attainment. The H-POWER facility is situated on the Island of O'ahu, a region classified as attainment for all of the criteria pollutants under the NAAQS and therefore considered to have air quality that is protective of public health.

H-POWER, as is the case for other industrial facilities, must meet a variety of air pollutant control requirements for current operations, consistent with the Facility's existing air operating permit. With the Expansion a modification to the facility's existing air operating permit must be made that addresses the proposed changes in emissions and evaluates the potential impact to existing air quality in the region. CHRRV will not be allowed to operate the expanded facility unless compliance with air quality requirements has been demonstrated to both the satisfaction of the State of Hawaii and the Federal EPA. A comprehensive discussion of applicable emission standards and the results of ambient air quality analyses and mitigation measures will be provided within the EIS.

4.5 Visual Resources

The H-POWER facility is an existing industrial facility located in Campbell Industrial Park and is compatible with neighboring industrial properties, including AES Hawaii, Inc. and HECO. As shown previously on Figures 2-2 and 2-3, Aerial Photographs, the area surrounding the H-POWER site is developed and is industrial in nature. The proposed action includes the construction of a new facility stack for the proposed, new Mass Burn combustion unit. This new stack will be constructed in the front area of the H-POWER facility as noted on Figure 1-1. To address potential concerns regarding the change of appearance that are anticipated, CHRRV prepared a photographic simulation of the modified facility. Figure 4-1 shows the facility post-Expansion. As can be seen from the simulation, the H-POWER Expansion will minimize visibility impacts by the use of compatible construction materials.

4.6 Socioeconomics

The proposed H-POWER Expansion is anticipated to be an economic stimulus in multiple ways:

- H-POWER currently employs 145 island residents and has a \$10 million annual payroll. The Expansion is anticipated to result in 300 construction jobs and several additional operational positions.
- CHRRV utilizes local vendors whenever possible to purchase goods, services and equipment. Each year CHRRV spends more than \$8.5 million locally on equipment and services from Hawaii vendors, further boosting the local economy. The Expansion is anticipated to result in significant local spending during the construction period.
- The existing H-POWER Facility is a proven and cost effective solution for the management of municipal solid waste (MSW) on the island of O‘ahu. The Expansion will ensure that the growing demand to manage MSW on the O‘ahu is addressed. The construction of the Expansion will not interfere with the operation of the existing Facility.
- H-POWER has been recycling waste into energy since it started operation. It produces about 5 percent of the power used on the island avoiding the need to import expensive oil and providing a significant reduction in greenhouse gas emissions.

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Figure 4-1. Photo-Simulation (Expansion)



H-POWER Resource Recovery Facility

Honolulu, Hawaii

900 TPD Expansion Project



4.7 Infrastructure

The existing H-POWER facility relies on a variety of associated infrastructure to support safe and environmentally responsible waste-to-energy operations. The infrastructure necessary to support such operations includes:

- Water Supply Facilities (both industrial and sanitary)
- Wastewater Facilities
- Stormwater Drainage Facilities
- Storage/Ancillary Facilities

The potential changes, modifications and/or enhancements to the supporting infrastructure of the H-POWER facility will be identified and potential impacts evaluated. This information will be documented in the EIS, and CHRRV will develop appropriate mitigation procedures where impacts are identified.

4.8 Solid Waste

The Expansion is designed to offer increased efficiency and capacity at the existing H-POWER Facility in Kapolei, Hawaii. The Project is being developed to expand a competitively priced, environmentally sound and proven waste disposal technology on O‘ahu, thereby extending the life of the existing Waimanalo Gulch Sanitary Landfill and potentially minimizing the capacity needs of landfills yet to be developed.

The Expansion will increase its waste disposal capacity, increasing throughput of MSW by approximately 300,000 tons per year and increasing the quantity of recyclable metals recovered annually. Expansion of the facility will further reduce the need for landfilling of municipal solid waste in Honolulu, a potentially significant benefit that will be evaluated in depth within the forthcoming EIS.

4.9 Energy

The H-POWER facility has been operational now for over 18 years and its reliable service to the City continues. It is anticipated that H-POWER, with the Expansion planned at the existing industrial site, would enhance its reliable service to the City and in so doing continue its long history of providing cost effective solid waste solutions as well as a critical source of renewable energy to the City and County of Honolulu and the Island of Oahu. H-POWER generates five (5%) percent of Oahu’s electricity from a renewable resource, helping Oahu achieve its goal of becoming more energy self-sufficient by reducing dependence on imported fuel. It is anticipated that, after the expansion, H-POWER will generate eight (8%) percent of Oahu’s electricity from a renewable resource.

CHRRV will evaluate potential impacts to energy resources due to development of the Expansion and will document this information in the EIS.

4.10 Human Health

To ensure that current operations at the H-POWER facility were not adversely affecting human health, the City initiated a risk assessment project in 2002. Human health risks from the H-POWER stack emissions were evaluated in a Screening Level Multipathway Human Health Risk Assessment using emissions data from stack monitoring reports from 1990-2002. Constituents evaluated included arsenic, beryllium, chromium, lead, mercury, nickel and dioxins and furans. The risk assessment used state-of-the-art methodologies that are consistent with the U.S. Environmental Protection Agency's (EPA's) *Human Health Risk Assessment Protocol for Hazardous Waste Combustion Facilities* (updated 2005). Receptors within 20 km of the facility were evaluated assuming exposures from multiple pathways, such as inhalation, incidental ingestion of soil while working or playing outdoors; ingestion of produce, consumption of food products (beef, dairy, pork, poultry, and eggs), and consumption of fish. Estimated risks were less than U.S. EPA's and Hawaii Department of Health's regulatory level of concern for such facilities, which is a noncarcinogenic hazard index of 1 and an estimated lifetime excess cancer risk of 1 in 1,000,000 to 1 in 10,000. Estimated cancer risks from the H-POWER stack emissions for all people who could be exposed to the emissions were less than 1 in 1,000,000.

When the City first started planning to expand the H-POWER facility, it wanted to ensure that such a project would not compromise human health. Accordingly, the risk assessment was updated to estimate the hypothetical risks that would result should a third boiler be added. The addition of this third boiler would increase the total operating hours. However, should a third boiler be added to the facility, the pollution control technologies associated with new boiler design would result in lower emission rates than those associated with the existing boilers. Despite the increased hours of operation, the estimated risks were still less than a noncarcinogenic hazard index of 1 and an estimated lifetime excess cancer risk of 1 in 1,000,000.

In the Draft EIS, this Screening Level Multipathway Human Health Risk Assessment will be updated to include information about the operating conditions associated with the Proposed Action and the on-going Clean Air Act retrofits for the air pollution control systems for each of the two existing RDF combustors.



5.0 CONFORMANCE TO FEDERAL, STATE, AND CITY PLANNING POLICIES

State and County land use plans, policies, and controls are established to guide development in a manner that enhances the overall environment of Hawaii, and to ensure that long-term social, environmental, and land use needs of the people of Hawaii are met. The use of the site for the Expansion will be designed to be consistent with State and County land use plans and policies which will be evaluated as part of the Environmental Review process and summarized within the Draft EIS. Reviews will include, but not be limited to, the Hawaii State Plan, State Land Use Law, City and County of Honolulu Land Use Designations and Controls and State and County Solid Waste and Energy Plans.

6.0 NECESSARY PERMITS AND APPROVALS

Table A, Potential Permits, identifies the permits and approvals that may be required (federal, state, and county).

Table A. Potential Permits

Approval/Permit	Approving Agency/Authority
Covered Source/PSD Air Permit	U.S. EPA and Department of Health (DOH)
Air Navigation Clearance	Federal Aviation Administration (FAA)
Conditional Use Permit for Construction Activities pursuant to Public Health Regulations	DOH
Designated Groundwater Control and Use Permit (for well sources of cooling water)	Dept. of Land & Natural Resources
Water Connection Permit	City Board of Water Supply
Well Permit	City Board of Water Supply
National Pollution Discharge Elimination System (NPDES) permit	DOH
Certificate of Compliance and Solid Waste Management Permit	DOH
Coastal Zone Management Program Consistency Review and Certification	Office of Planning
Grading Permit and Drainage Plan Approval	Dept. of Planning and Permitting
Building Permit	Dept. of Planning and Permitting
Construction Dewatering Permit	Dept. of Environmental Services



7.0 AGENCIES, ORGANIZATIONS, AND INTERESTED PARTIES CONSULTED

CHRRV and the City and County of Honolulu have consulted with and continue to consult with state and federal agencies in formulating plans for addressing the County's solid waste disposal needs. Agency consultations conducted in advance of the publication of the EIS Preparation Notice in *The Environmental Notice* are listed in Table B – Agencies Consulted.

Table B. Agencies Consulted (Pre-Assessment Consultations)*

Contact Name	Organization	Meeting/Contact Dates
FEDERAL AGENCIES		
	U.S. EPA Region 9	June 3, 2008 Carol Bohnenkamp Anita Lee
	U.S. National Park Service Air Resources Division	June 23, 2008 Don Shepherd
STATE AGENCIES		
	Hawaii Department of Health Clean Air Branch	May 1, 2008 Nolan Hirai
	Hawaii Department of Health Solid Waste Branch	May 1, 2008 Lene Ichinotsubo Janice Fujimoto
*Consultations conducted by City/County representatives, H-POWER and/or H-POWER subcontractors.		

REFERENCES

Belt Collins & Associates, Honolulu, Hawaii – 1983 REVISED Environmental Impact Statement for the Proposed Solid Waste Processing Resource Recovery Facility.

C.E. Maguire, Inc., Providence, Rhode Island – January, 1986, Final Geotechnical Report for the Proposed Honolulu Resource Recovery Venture, Campbell Industrial Park Site, Honolulu, Hawaii.

U.S.G.S. (1998) Topographic Quadrangle (scanned)

U.S.G.S. (undated) Aerial Photograph